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SIMILARITIES IN CULTURE

BY OTIS TUFTON MASON*

The subject of my address is "Similarities in Culture," at the present time an important and perplexing question in ethnology. Let me state what is commonly meant by similarities in culture.

Among peoples far removed from one another geographically and often belonging to different types of mankind there are found words, art products, industries, social structures and customs, folk-tales, beliefs and divinities, and even literatures apparently so much alike as to raise the following questions in different minds:

First Theory.—Are peoples identical or akin when their activities and productions are alike; or can it be said that these likenesses were derived from common ancestors? In the case of the Aryan languages you will say yes. But may one employ this notion or concept of kinship and ancestry to account for likeness in custom, industry, fine art, government or myth, or in languages generally? Can the premise be laid down that, when two peoples are alike in their industries, customs, and laws they are connected by blood or at least by nationality? To state the problem a little differently, to what extent must two distant peoples resemble each other in the characteristics just named in order to make it certain that they are near akin? Nothing is more common than assertions by professed archeologists, ethnologists, historians, and especially by linguists, that peoples are

* Address of the retiring President before the Anthropological Society of Washington, February 4, 1895.

the same because certain presumed similarities are alleged to exist between them. Later on it will be necessary to examine this theory to ascertain what standing it may have in the study of culture. It is sufficient here to state the propositions that many peoples have been declared to be the same by reason of language or activity, and that when peoples are akin their speech and acts will be alike.

Second Theory.—Or can it be that the occurrence of the same processes or productions among peoples widely separated may have been derived from contact or common teachers? There are a multitude of ways in which this might happen. You know that before there was a beast of burden humanity had found its way over the earth on foot, and that in the simplest craft, without compass and with only Nature's pilots, every water had been traversed and every habitable island in all the seas had been discovered and settled. It is a long journey from the supposed cradle land of our species to Tierra del Fuego; but it had been successfully accomplished in prehistoric times.

Similar devices find their way about the world nowadays, and this has been true so far back as records exist:

a. By commerce, trading from hand to hand, the authors or manufacturers remaining at home. Innumerable examples of this are forthcoming and long distances have been passed over by objects. In their new abode they have quickened the minds of inventive geniuses and started new wants and series of devices in the native industrial life. The practical museum curator will readily recognize this class of similarities. I myself have seen cocoanuts and Chinese coins in Alaska, Eskimo fish-hooks in Hawaii, and Venetian beads from every corner of the world.

b. Itinerants and peddlers and tramps have marched about the world ever, and men and women have been enslaved and wrecked. These have transported things and ideas and words. They have set up a kind of internationalism from place to place. We read often that these middle men and women had, even among savages, intertribal amnesty. This kind of aboriginal pedagogy has been found in active operation among savage tribes in historic times. It is a fair question, then, how far backward in time this globe-tramping extended and what influences the wanderers exerted.

Bandelier* says :

Although languages and dialects were separated from one another by uninhabited regions, prisoners of war could tell of what was going on at their homes ; the booty would include a variety of strange objects ; and traders traversed the country in the face of numerous dangers, visited the enemy's markets, and carried goods to them, with many novelties. This process was repeated from tribe to tribe ; and in that way the products of one half of the continent passed, often in single objects, to the other half, and with them accounts of far-off regions, though changed and distorted by time and distance, into remote quarters.

c. Migratory bands and whole colonies have ever been on the the go. A distinguished ethnologist has said that "early man was scattered over all the earth in kinship tribes, each one knit together by bonds of kindred blood and cords of marriage ties."† This being true when the facilities of locomotion were rudest, the movements have grown more vigorous as the appliances were made better, until the idea of universal dominion was conceived. Peschel says that "all peoples were capable of accomplishing the migrations which we have ascribed to them. The difficulty generally exists only in the imagination of the spoilt children of civilization."‡

Third Theory.—The last theory to be noted here is this : Can it be argued that like activities may spring from a common humanity, in similar environments and culture stages, under similar wants and stress ? This takes for granted the monogenist's doctrine that the inhabitants of the earth were originally of one blood. There is no doubt of the profound effects and influences of the earth, the waters, and the air upon mankind. They produce all that is natural in man, and they provoke and suggest also a large measure of his artificial or progressive life. §

Three Schools.—Now, to remove all mystery and to make the question as perspicuous as possible, there seem to be three somewhat opposing schools of belief regarding the origin of culture similarities. They may be called :

* A. F. Bandelier : *The Gilded Man*, N. Y., 1893, p. 7.

† Powell : *Science*, N. Y., 1895, n. s., i, p. 16.

‡ *Races of Man*, N. Y., 1876, p. 31.

§ Consult Franz Heger, *Mittheil. Anthropol. Gesellsch.*, Wien, xx iii, May 3, 1893 : Hat die von einander unabhängige Erfindung gleicher oder ähnlicher Geräthe und, wenn wir die Frage auf das geistige Gebiet ausdehnen, das Vorkommen gleicher Ideen und Vorstellungen, auch einen Grund in der Rasseneinheit oder nicht ? Also Brackenridge, *Louisiana*, 1814, p. 189.

1. The ethnographic school.
2. The accultural school.
3. The anthropologic school.

At any rate, whether we employ connotive names or not, the first holds that similarities argue identity of peoples or blood; the second contends that like industries arise by reason of the same teachers; a third believes that similarities spring from the species, the want, the environs, and the nature of things and of mind.

How Similarities are Effected.—In the presence of confusing theories it would be most satisfactory if one or more undisputed propositions could be found in this connection. The following will probably meet with universal assent:

1. Similarities are in our day known to be effected by the same person, tool, or workshop.*
2. Others are surely produced through hereditary and traditional teaching.
3. Some come by borrowing, lending, slavery, and conquest.
4. They get about the world by barter and commerce.
5. They arise through like psychical and physical attributes of race or species.
6. They spring from similar attributes of environment acting on different races and on the homogeneous qualities of human nature.†
7. Startling similarities occur accidentally, as the Greek potamos and the Algonkian Potomac.

*There are in Japan typical localities, schools, and families wherein pottery of such peculiar paste, form, decoration, etc., is so marked that Professor Morse can distinguish them not only from all other examples in the world beside, but by name from one another. If he were to see a piece of any of these types in the remotest corner of the earth he would not say that any people similarly environed would make precisely the same things. He would say, "How did this Bairin or Odo, or what-not, get here."

†Major Powell says of the scattered first men: "There can be but one kind of mind. Two and two are four with every people; the moon is round, gibbous or crescent wherever it shines for man; the sun shines in every eye; the child grows in every experience. Thus the four great mental activities of number, form, cause, and becoming are the same in every land, and the mind of every man is a unity of these four powers, and every mind is like every other mind in their possession. They differ only in extent of experience acquired directly by self or indirectly from others. While the mind is the same with all men the will is the same. All desire to gain good and to avoid evil, so all wills develop on a common plan. By mind and will, by mentality and volition, man progresses on the five highways of life, so that all men are impelled to the same goal of wisdom. Pursuit of the common end has proved to be more powerful in producing involution than the forces of environment in producing differentiation or classic evolution."—*Science*, N. Y., 1895, n. s., i, p. 17. Also McCulloh, *Res. on America*, Balt., 1817, p. 188, quoting Gibbon, *Decline*, etc.

8. Finally, there are like results that spring from opposite causes or occasions, as the building of a subterranean house in one region to dispel the heat, in another to keep out the cold.

Every one of these propositions is true under certain conditions; they are true each under its own conditions, and that leads to the next argument.

Species of Similarities.—In point of fact, then, there are different grades, classes, species of similarities in human culture. A Moki rabbit club is like an Australian boomerang and an Egyptian throwing club in a limited number of respects, but coins from the same issue and die are alike in a greater number and in different degrees of respects. Some similarities therefore are to be accredited to one series of causes, others to a different series, all having unlike significance.

Supposing it could be shown that there are distinct varieties of similarities, as well as distinct ways of accounting for them, then, when one has diagnosed his specimens correctly (and that is always his scientific duty), he may predicate the true theory of their production. Those similarities that belong to the first class and are effected by the same arrow-maker, potter, painter, architect, die, inventor, or author are certainly more near to identity and are more profound than those produced by—

1. Different men or factories, even in the same group or community.
2. Different communities of the self-same family of peoples.
3. Different stocks or families of the same race.
4. Different historic periods of the same people.
5. Different environments or geographic areas or sources of supply.
6. The human species in comparison with natural forces or other living species.

Or, fixing the attention on two peoples under consideration, the question of similarity between them might run a gamut like the following:

1. Casual resemblance in one or more respects.
2. Similarity in one object or custom.
3. Similarity in one process or activity.
4. Similarity in several activities.
5. Similarity in many industries.
6. Similarity in language.

7. Similarity in social structure.
8. Similarity in beliefs or religion.
9. Similarity in practically all respects.
10. Identities.

Definition of the Term "Similarity."—It is absolutely essential that the technographer, the artist, the linguist, the sociologist, the mythologist, each and all lay down a comprehensive and clear definition of the term "similarity in culture" that will enable one to use it advisedly. I imagine they would speak somewhat as follows:

1. All devices of man involve the question of natural material, resources, units and elements out of which they are effected, "*ex qua aliquid fit.*"

2. Involve differences in the formal cause, the motif or mental substratum of the action or thing, the patterns in the mind of the agent, "*per quam aliquid fit.*"

3. All inventions are produced by their own efficient causes, "*a qua aliquid fit.*" This would comprehend all the tools, natural forces, metrics, mechanical powers and engineering involved, together with their processes, artificialities, and order of working.

4. All devices of man involve the question of functioning or differences in the final cause, "*propter quam aliquid fit.*" In the inventions of mankind every one is both an end in itself and a means to a multitude of other ends. This topic therefore includes everything that an invention is and may become. These are the categories of Aristotle involved in all that men do. Perfect agreement in all of them is perfect similarity, partial agreement is partial similarity and may exist in a variety of degrees.

Or perhaps it would be more in accordance with modern thinking to adopt the phraseology of the naturalist. He first investigates the perceptible attributes, the structures, and the functions of the adult organism by means of the most refined instruments; he studies the biography of each individual from germ to decay; and, lastly, he attempts to find out how his species stands related to other species. In arranging these he endeavors to read the mind of nature, substituting homological agreements for analogical agreements. In point of fact both analogies and homologies are constantly held in mind.

The ethnologist is bound to apply rigidly this natural-history

method to the study of human activities. He must scrutinize carefully the material and the structure of two industrial achievements, of two esthetic productions, of two languages, of two social systems, of two religions, to ascertain how they are composed. In biological phrase, he must examine the structure and ontogeny of each specimen with a view to determine the question of philogeny between them. This gives ample scope to separate one kind of similarity from another and to tabulate the result in columns of likenesses and differences.

Finally, besides the Aristotelian and natural-history methods of discrimination, there are, associated with all of man's activities, by-ways, by-fashions, tricks of the trade, and trade-marks non-essential to structure or function, and there are folk-fashions around every industry that help to brand its author's identity upon it. The coöperation of all these cannot exist in areas wide apart. When two phenomena or objects agree in all these respects they came from the same shop or the same author. The source is identical. There is no mistake about it, even though examples may be found in several parts of the world.

Axioms.—From the particular propositions and from characteristics of similarities, just explained, the following axioms may be stated :

1. In ethnology, the more that the same arts, languages, institutions, and opinions are alike structurally and functionally or in accordance with the Aristotelian categories, the stronger is the evidence of their common origin. The more they are unlike in two areas, the stronger is the evidence of independent origin.

2. If the same invention occurs in three or more places, that is stronger evidence of a common human origin, and the multiplication of places strengthens the argument for oneness of cause.

3. Again, the multiplication of respects in similarities between any two peoples is another strengthening of evidence that they were once one, or that they have both been infected with the same contagion of culture. It is the same here as in law, the greater the number of witnesses that give to the same transaction testimony in the identical language, the surer is the court of collusion.

4. While it is true that inventions may be so similar in structure and appearance that there can be no doubt of their having come from the same source, the converse of the proposition can

have no standing. It can never be said that any degree or kind of similarity between inventions will prove their independent origin. There is no mark of independent origin through similar stress or environment. Indeed, always the less similar things are, the greater is the probability that their originators had no connection.

5. If two anthropological phenomena in different parts of the world are homologous, that is no evidence of their independent origin. To the normally constituted mind it raises the suspicion of contact after some fashion. The contact may be impossible of proof historically; but the belief that complex structures with identical functions and widely separated in space arose independently is the last resort. It is never illogical to hypothecate some sort of contact or tuition; but the difficulty of supposing independent origins increases every moment with the greater and greater likeness in the intimate structure.

6. You can never be sure of two common resemblances, even that they arose independently, for everything that can be accounted for by the common-nature theory could also have been taught. What might possibly be accounted for by common race or family could frequently have been accultured. Indeed, a sporadic resemblance between peoples living widely apart in corresponding environments immediately raises the question why is this the only art in which they resemble. That the profundity and immediateness of relationship between peoples will be gauged by the intimate structural likenesses in their productions ethnology and biology agree. Two identical species do not arise independently.

7. It will be admitted that varietal dissimilarities in similar types of invention evidence independent origin of some kind; and the more marked these varietal differences are, the farther apart may be their origins. In such cases the similarity is not the proof of independent origin. That proof must be sought elsewhere, perhaps historically. It is the style and degree of differences that declare the degree of independence. Things of the same type may differ and yet may have been made by the same man or in the same tribe. But differences in such cases are not the same as those that occur independently. Varieties may be generically alike in spite of independence, but they cannot be alike by reason of independence.

The Independent Origin Theory.—Let us study a little more closely the independent origin theory, which is now very popular. There are activities which all human beings practice in common whenever the occasions and the facilities arise, certain laws to which all are subject, certain endowments which are the heirloom of the species. The enumeration of these one by one would eliminate the common actions and culture similarities arising from a common human nature and leave the inquirer only such as have arisen by inheritance or acculturation.

1. *Man a Part of Nature.*—No one doubts for a moment that all human beings with their achievements are terrestrial objects and phenomena, subject always and everywhere, without regard to race or time, to the Keplerian laws, to physical forces, to chemical actions and reactions, to osmotic processes like the plant, to nervous stimuli and muscular movements like all other vertebrates. They all have five fingers on each hand and five toes on each foot, etc. Just so far as humanity is in the great streams of existence with other beings under the same canopy of heaven, dwelling in the midst of the atmosphere, the hydrosphere, and the geosphere, where similar causes bring about similar results, no one will call the proposition in question that all sorts of people in every part of the world will act similarly under like provocations.

2. *Mankind as of One Species.*—Before the human species began to separate at all its members must not only have been endowed with traits of mind and body in common, but already must have been schooled in many common experiences. These are the heritage of humanity, the mother arts, language, institutions, and beliefs, of which all others are the progeny. If, then, you find all mankind adapting house and clothing and occupations to the environment in a general way, it is what they ever did; but, inasmuch as there are always several ways of getting at the same complicated result, this proposition is true only generically and in forms little differentiated from nature.

Brinton* says:

It seems to me, indeed, that any one who will patiently study the parallelisms of growth in the arts and sciences, in poetry and objects of utility, throughout the various races of men, cannot doubt of their psychical identity. Still more, if he will acquaint himself with the modern science of

* *Races and Peoples*, N. Y., 1890, p. 82.

Folk-lore, and will note how the very same tales, customs, proverbs, superstitions, games, habits, and so on, recurs spontaneously in tribes severed by thousands of leagues, he will not think it possible that creatures so wholly identical could have been produced by independent lines of evolution.

3. *The Same Animal Teachers*.—Not only mankind, but animals associated with man or living in his presence have generic and family resemblance in conduct and adaptabilities to human wants in various parts of the world. Different peoples have been instructed by these creatures in housebuilding and arts, in speech and society, and different species have surrendered the various parts of their bodies and their productions for the supply of human needs. When two widely separated peoples use shells for spoons, gourds for vessels, or give like names to the whippoorwill, it is not necessary to suppose contact, if they agree only in these particulars and do not use precisely the same device in each case.

4. *Plant and Mineral Friends*.—After the same fashion there are obtrusively useful plants common to many geographical provinces, with prominent parts—fruit, qualities, and substances for man's comfort. The savage could not fail to take note of them, and their attributes sufficiently account for their employment.

The same is true of stone; for early man's industries the world had but three kinds: stone for chipping, stone for battering and grinding, and stone for cutting. Perhaps all three arts are a common and continuous heritage. At any rate, stone is so refractory and circumscribed that we do not have to suppose the importation of teachers to impart processes that Nature herself constantly taught.

5. *Areas of Characterization*.—The various races, peoples, and breeds of mankind have been endowed with characteristics peculiar to them by reason of environmental causes; but they have at the same time perpetuated the generic spirit that makes all races akin.

The new and plastic race spirit has had to go in predetermined tracks, by reason of the uniform number of wants, the restrictions upon human endeavor, and the attributes or endowments of culture-areas; so that, while differences are really the legitimate product of separate culture-areas, general similarities may survive in them. Similarities in separated culture-areas are not

profound and the likeness between human productions begotten therein is no greater than that of the regions.

6. *Varietal and Race Differences*.—These different races must under other stress learn also new arts, since an activity may be so congenial to a new region or material that the laws of mind and of least resistance would constrain all comers there or users thereof to walk in the same paths by a species of natural acculturation. Notice the reindeer, dog, and birch-bark occupations in hyperborean regions, buffalo industries on the Missouri, pueblo and pottery industries in the southwest, bamboo industries in Malaysia, and so on. In each of these places there are several families of mankind, and you will find them building, clothing, working somewhat alike, pursuing the same pleasures, and gazing on the same spirit world. Leaving out the fact of acculturation and intermarriage, even here Dr. Matthews, Mr. Cushing, or Dr. Fewkes would have no trouble in discriminating peoples.

Just as the limbs of trees separate from a common trunk, and each of these limbs gives rise to a set of branches, and each branch is the starting point of twigs, which produce the spray, the whole process representing a very long time, so the human species has given rise to subdivisions. This is the common way of representing the affiliations of living beings; but in the case of man, as of animals and plants, the limbs are not alike in variety; neither are any of the other subdivisions. They stand for new centers of variation.

There are three leading types of mankind—the Caucasian, the Negroid, and the Mongoloid. If certain proclivities and ways are the common inheritance of the human species by reason of common blood, then there must have been superadded upon the three types proclivities and ways and arrests by reason of the causes which made these three to differ.

Again, there are about twelve well-defined races of men. You will find them enumerated in Müller, Peschel, Haeckel, Huxley, Topinard, Keane, Brinton, and elsewhere. By the same processes that made them distinct races, proclivities and ways were engendered in each one of them that were *sui generis*.

Finally, there are several hundreds of families or stocks of mankind, speaking absolutely different languages, so far as the philologist is able to discriminate. By reason of the isolations and environmental pressures that made these to differ in appear-

ance and speech, they acquired finer proclivities and ways of doing things that one would discover to be their own if he were well enough informed. There are plainly before the eyes of all who will observe, in spite of a common humanity, well-marked kinship groups, territorial groups, national groups, technic groups, psychological groups.

Again, from the earliest times the separation of the limbs from the trunk of humanity has been coördinated with the interlacing of the leaves and spray. So the peoples of the earth have intermarried, traded, taught one another, lent, borrowed, and improved upon each other's activities. To this general transfer Powell gives the name of acculturation.

The True Question.—In point of fact, the question of a common humanity is not exactly whether inventions arose independently by reason of a common human mind, but how many generations, varieties, or races back in time one is to look for the first appearance of the common want and culture status out of which the particular invention in question sprung. Omitting a few fortuitous examples, all resemblances in culture are derived from that specialized nature which is so far removed, both spiritually and biologically, from that of any other creature. The question, after all, is like that of a genealogical register. In fact, working perpetually within the grooves, tracks, currents, leading strings of environment, there are generations of similarities based on:

1. The specific attributes of humanity as a whole.
2. Varietal or racial attributes of peoples.
3. Industrial association or acculturation.
4. Common craft or union in activity.
5. The genius and tradition of family or school.
6. The unique spirit of one man.

The Dividing Line.—Now we come to the dividing line between the anthropological similarity and the ethnological similarity and acculturation. After allowing to the notion all that can possibly be expected by reason of the earth's forces and resources (and they are very potent), by reason of common human nature and traits ("a great and noble fact"), of natural pedagogy, of corresponding culture-areas, and even by reason of long-time-ago ancestors, there still remain the whole immense body of characteristics in human achievement that belong to forces and materials that do not often come together

independently, but are designedly brought together. The concomitancy of so many identical movements, according to the doctrine of chances, more than once is not to be expected.

It is agreed, then, by all that certain kinds of similarity may exist in regions wide apart independently when the occasion arises and the environment permits. It is also admitted that things may be so similar as to allow no doubt that they were created under the inspiration of the same teachers. There is, then, a criterion, a boundary line, not definitely fixed, perhaps, but a fence between those so-called similarities that arise independently and those which show acculturation of some kind. This fence must be largely psychological.

The question, I repeat, is not one of origins at all, but one of the number, kinds, and degrees of similarities in the artificialities of life. For example, the invention of the canoe is a natural, human process; the bark canoe is environmental, the birch-bark canoe is culture-historical. But what should we say of the Amur and the Columbia River types, each pointed beneath the water like a monitor and unlike any other species? Surely these must have some kind of acculturation. Now, if it be found that the Columbia stock and the Amur people have also the same name for their pointed canoes and a multitude of other coördinated likenesses, then kinship of blood or nationality is proclaimed.

There must have been very careless use made of these plain declarations, and the philologist has been the chief of sinners. Dr. Brinton, at the Anthropological Congress in Chicago, said, with reference to the relation between the peoples of America and those of the Eastern Hemisphere, "that up to the present time there has not been shown a single dialect, not an art nor an institution, not a myth or religious rite, not a domesticated plant or animal, not a tool, weapon, game or symbol, in use in America at the time of the discovery, which had been previously imported from Asia, or from any other continent of the Old World."*

This is a startling sentence after the thousands of pages that have been written based upon assumptions that the similarities therein denied do exist in sufficient number and intimacy of structure to proclaim identity of the Americans with numerous Asiatic peoples.

* Internat. Cong. Anthropol., Chicago, 1894, 151.

If you will carefully read Dr. Brinton's paragraph, however, you will observe that the distinguished ethnologist probed the heart of the matter in a single paragraph. He is speaking of dissimilarities or similarities falsely so called. He means to say that so far as the genuine evidence goes the men of the two hemispheres are so different in themselves as well as in their activities that there is no good evidence of common origin or culture. The independence is proclaimed on the score of unlikeness.

The rationale of this assertion is undisputed. When any two peoples, or arts, or industries, or institutions, or languages are scientifically dissimilar, then contact is so far forth disproved.

If I should hesitate to indorse Dr. Brinton's paragraph fully, it would not be in its condemnation of those who, like Publius Considius, had claimed to see and hear what they had not seen and heard, but in ascribing too much originality to the Americans. To me the whole activital life of the Western Hemisphere looks second-hand. But ethnological literature is the graveyard of hasty generalizations. Great fault surely is with those who on slight coincidences of sound or arts or social phenomena have declared the identity of peoples not even belonging to the same subspecies of the human genus, and have assumed acculturation between races with half the circumference of the globe between them because of slight resemblances.

The old-time travelers and ethnologists, being uninstructed as to our modern studies concerning man, themselves erred in mistaking superficial resemblances and mimicries for essential and fundamental similarities. They did not err in thinking that like inventions spring from related peoples, but they were not called upon to discriminate the true nature of likeness. But it is not my intention to abuse those who have given me so much pleasure and a deal of solid instruction.

We are indebted to these older students for many extremely precious books written to prove that this people were the same as that. The theory was wrong, but the works are crowded with information upon a thousand subjects of abiding interest. If we take issue with the authors, it is merely in the interest of science and with no wish to disparage them. Of the older writers I shall not now even speak. They walked by the light

they had, and there are excellent modern examples to illustrate the point.

The question that confronts us everywhere is at bottom one of the character of testimony, of the competency and credibility of witnesses, and of the use that is made of testimony. We are not ready yet to decide between anthropologic, ethnologic, and accultural similarities, but are arrested between folk-lore and science, between truth and falsehood. At the very outset of every one of the sciences students were confronted with folk-collections, folk-observations, folk explorations and researches, folk-tales, erroneous data, prejudiced and poetical statements.

It is a melancholy admission, and I think every one of my brother curators will bear me out in it, that only a very small per cent. of the specimens in the anthropologic and ethnologic collections of the world are trustworthy witnesses in a refined study.* Let a trained Americanist go carefully through the cabinets of the world or examine what is inscribed on the backs of hoarded manuscripts. The Wilkes collection in the National Museum was received from the United States Patent Office and is of great value; but one would lose his reputation for scientific accuracy who would base any conclusion upon it as it was originally labeled. The same is true of the assertions of amateur travelers and of their collections and photographs. Too frequently attempts are made to commit these extremely interesting and popular accounts to an accuracy not attempted by the author. In no invidious sense, most of such writing is folk-lore and so designed to be, and delights the folk element in us or it would have no audience.

The very essence of science is comparison. The remedy for superficial work is not in the abandonment of research, but in its prosecution according to better methods.

If I may be allowed a suggestion, I should appeal to my colleagues in this and other societies to have a tacit understanding to use with great caution what is contained in ordinary books of travels and passing articles in popular journals whenever they cannot be made to conform to the laws of historic science or the laws of ethnologic science. If the statements may not be substantiated by accessible testimony or actual specimens or photo-

*See R. Andree, *Brasilianische Ankeraxt, etc.*, Branschwg., lxx, 17.

graph, it does not seem fair to the writer to put him upon his veracity beyond his own designs.*

The British Notes and Queries, the French, German, and Austrian directions to collectors and observers, especially the continued series of pamphlets of instruction sent out by the Smithsonian Institution and the Bureau of Ethnology, are entirely in the right direction. It only remains for the bodies issuing these circulars to call their agents to account and to put upon them the obligations of the naturalist, who is compelled to accompany every statement with tangible or documentary proof. I shall also hail the auspicious day when by illustrated publication all museums shall be practically turned into one museum, by which means one-half our errors will eliminate themselves.

When men go out hunting similarities they usually find them, or, at least, the personal equation of the best of us interferes with that rigid scrutiny without which all our professed science is child's play.

On the other hand, when men lay down the dictum that all widely separated similarities are due to a common humanity, and that is the end of it, they substitute dogmatism for science, and this has shrouded every mind or people in midnight ignorance that has been so unfortunate as to be subjected to it.

I deem it of the utmost importance to open all questions of this kind to more careful and renewed scrutiny, to apply the principles of counted and graded similarities, to leave the evidence in some convenient center for the inspection of the most critical, to combine the technographic with the ethnographic arrangement in study, and finally to draw no conclusion that is not in conformity with the procedure of natural history. Above all, the best results will come from organized coöperation by skilled students combined in a perpetuated or endowed research.

Let us hear the conclusion of the matter. Similarities in culture do arise:

1. Through a common humanity, a common stress, common environment, and common attributes of nature

*"To study culture is to trace the history of its development, as well as the qualities of the people among whom it flourishes. In doing this it is not sufficient to deal with generalities, as, for example, to ascertain that one people employ bark canoes, whilst another use rafts. It is necessary to consider the details of construction, because it is by means of these details that we are sometimes able to determine whether the idea has been of home growth or derived from without." (Lane Fox: *J. Anthropol. Inst.*, Lond., 1875, vol. iv, p. 400.)

2. Through acculturation—that is, contact, commerce, borrowing, appropriating, between peoples in all degrees of kinship.

3. Through common kinship, race, or nationality.

Generic similarities arise by the first cause; special and adventitious similarities by the second cause; the more profound, coördinated, real, and numerous similarities by the third cause.

Similarities are partly natural, such as sounds of animals, forms of pebbles, qualities of stone, clay, and the like, but most of them are fundamentally ideal. Where the same idea exists in two areas, a simple one may have come to men independently. One containing two or more elements in the same relations and order is less likely to have so arisen, while a highly organized idea could not often have come to two men far removed from each other. Furthermore, a complex idea is never the progeny of a single mind, and that embarrasses the question further.

The elements of similarity that appear independently are in new functions for old structures, the qualities of materials, the forms of vegetal life, the actions and voices of nature, in what we may call the working part or foundation of the invention.

The elements of similarity that arise by acculturation are fortuitous partly, and generally stand out as radically new. On examining the culture of the borrower and of the lender, the difference of race or people is apparent.

The elements of similarity that arise from identity of race or blood are homogeneous, multiplied, ideal. They exist not so much in the working and natural as in the inventional and artificial part of the activity.

The generic and adventitious similarities are most striking and most frequently called to notice. The error is in taking them for profound and real similarities. Those similarities that are imbedded in the life of peoples and logically coördinated with the annual circle of activities are of the family or stock and beyond any reasonable doubt proclaim the people to be one. Furthermore, they exist for the trained and patient eye and hand; they elude the gaze of the superficial observer. The identification of them is the reward of long years of patient research and the finder is the discoverer of a pearl of great price.